

CLAIMS

1. An isolated polynucleotide comprising a transcript of a T cell receptor (TCR) gene, the polynucleotide lacking V region sequences and comprising a constant (C) domain and joining (J) region sequences, and a 5' intronic J sequences upstream of the J region sequence including an
5 in-frame methionine codon.

2. The polynucleotide according to claim 1, wherein the gene is a TCR β gene.

3. The polynucleotide according to claim 2, wherein the joining (J) gene sequence is
10 selected from J β 2.1 and J β 2.6.

4. The polynucleotide according to claim 3, wherein the joining (J) gene sequence is J β 2.1 and said 5' intronic J sequence including an in-frame methionine codon codes for a peptide of the sequence M E N V S N P G S C I E E G E E R G R I L G S P F L [SEQ ID NO:1].

15 5. The polynucleotide according to claim 3, wherein the joining (J) gene sequence is J β 2.6 and said 5' intronic J sequence including a methionine codon codes for a peptide of the sequence M G E Y L A E P R G F V C G V E P L C [SEQ ID NO:2].

20 6. The polynucleotide according to claim 1, comprising a 5' intronic J sequence encoding a peptide selected from any one of SEQ ID Nos:1-37.

7. The polynucleotide of claim 2 wherein the joining J gene sequence is the intronic J β 2.3 gene sequence coding for the peptide:

25 M G L S A V G R T R A E S G T A E R A A P V F V L G L Q A V [SEQ ID NO:17].

8. The polynucleotide according to claim 1, wherein the gene is a TCR α gene.

9. The cDNA molecule according to claim 8, wherein the joining (J) gene sequence is
30 selected from human or murine J α genes.

10. The cDNA molecule according to claim 9, wherein said 5' intronic J sequence including an in-frame methionine codon is selected from the group consisting of:

(i) the intronic J α TA31 gene sequence coding for the peptide:

35 M A W H [SEQ IN NO:3];

- (ii) the intronic J α TA46 gene sequence coding for the peptide:
M E A G W E V Q H W V S D M E C L T V [SEQ IN NO:4];
- (iii) the intronic J α TA46 gene sequence coding for the peptide:
M E C L T V [SEQ IN NO:5];
- 5 (iv) the intronic J α New05 gene sequence coding for the peptide:
M T V [SEQ IN NO:6];
- (v) the intronic J α S58 gene sequence coding for the peptide:
M C G S E E V F V V E S A [SEQ IN NO:7];
- (vi) the intronic J α New06 gene sequence coding for the peptide:
10 M A C Y Q M Y F T G R K V D E P S E L G S G L E L S Y F H T G G S S Q A V G L
F I E N M I S T S H G H F Q E M Q F S I W S F T V L Q I S A P G S H L V P E T E R
A E G P G V F V E H D I [SEQ IN NO:8];
- (vii) the intronic J α New06 gene sequence coding for the peptide:
15 M Y F T G R K V D E P S E L G S G L E L S Y F H T G G S S Q A V G L F I E N M I
S T S H G H F Q E M Q F S I W S F T V L Q I S A P G S H L V P E T E R A E G P G
V F V E H D I [SEQ IN NO:9];
- (viii) the intronic J α New06 gene sequence coding for the peptide:
20 M I S T S H G H F Q E M Q F S I W S F T V L Q I S A P G S H L V P E T E R A E G P
G V F V E H D I [SEQ IN NO:10];
- 20 (xi) the intronic J α New06 gene sequence coding for the peptide:
M Q F S I W S F T V L Q I S A P G S H L V P E T E R A E G P G V F V E H D I
[SEQ IN NO:11];
- (x) the intronic J α New08 gene sequence coding for the peptide:
M W W G L I L S A S V K F L Q R K E I L C [SEQ IN NO:12];
- 25 (xi) the intronic J α LB2A gene sequence coding for the peptide:
M V G A D L C K G G W H C V [SEQ IN NO:13];
- (xii) the intronic J α DK1 gene sequence coding for the peptide:
M R E P V K N L Q G L V S [SEQ IN NO:14];
- (xiii) the intronic J α TA39 gene sequence coding for the peptide:
30 M E V Y E L R V T L M E T G R E R S H F V K T S L [SEQ IN NO:15]; and
- (xvi) the intronic J α TA39 gene sequence coding for the peptide:
M E T G R E R S H F V K T S L [SEQ IN NO:16].

11. The polynucleotide according to claim 8, wherein 5' intronic J sequence including an in-frame methionine codon is selected from the group consisting of:
- (i) the intronic J α 3 gene sequence coding for the peptide:
M L L W D P S G F Q Q I S I K K V I S K T L P T [SEQ IN NO:18];
- 5 (ii) the intronic J α 6 gene sequence coding for the peptide:
M L P N T M G Q L V E G G H M K Q V L S K A V L T V [SEQ IN NO:19];
- (iii) the intronic J α 6 gene sequence coding for the peptide:
M G Q L V E G G H M K Q V L S K A V L T V [SEQ IN NO:20];
- (iv) the intronic J α 6 gene sequence coding for the peptide:
10 M K Q V L S K A V L T V [SEQ IN NO:21];
- (v) the intronic J α 8 gene sequence coding for the peptide:
M S E C [SEQ IN NO:22];
- (vi) the intronic J α 9 gene sequence coding for the peptide:
M A H F V A V Q I T V [SEQ IN NO:23];
- 15 (vii) the intronic J α 11 gene sequence coding for the peptide:
M G I C Y S [SEQ IN NO:24];
- (viii) the intronic J α 13 gene sequence coding for the peptide:
M K R A G E G K S F C K G R H Y S V [SEQ IN NO:25];
- (ix) the intronic J α 14 gene sequence coding for the peptide:
20 M L T T L I Y Y Q G N S V I F V R Q H S A [SEQ IN NO:26];
- (x) the intronic J α 24 gene sequence coding for the peptide:
M Q L P H F V A R L F P H E Q F V F I Q Q L S S L G K P F C R G V C H S V
[SEQ IN NO:27];
- (xi) the intronic J α 31 gene sequence coding for the peptide:
25 M G F S K G R K C C G [SEQ IN NO:28];
- (xii) the intronic J α 36 gene sequence coding for the peptide:
M K K I W L S R K V F L Y W A E T L [SEQ IN NO:29];
- (xiii) the intronic J α 40 gene sequence coding for the peptide:
30 M G K V H V M P L L F M E S K A A S I N G N I M L V Y V E T H N T V
[SEQ IN NO:30];
- (xiv) the intronic J α 40 gene sequence coding for the peptide:
M P L L F M E S K A A S I N G N I M L V Y V E T H N T V [SEQ IN NO:31];
- (xv) the intronic J α 40 gene sequence coding for the peptide:
M E S K A A S I N G N I M L V Y V E T H N T V [SEQ IN NO:32];

- (xvi) the intronic J α 40 gene sequence coding for the peptide:
M L V Y V E T H N T V [SEQ IN NO:33];
- (xvii) the intronic J α 41 gene sequence coding for the peptide:
M E E G S F I Y T I K G P W M T H S L C D C C V I G F Q T L A L I G I I G E G T W
5 W L L Q G V F C L G R T H C [SEQ IN NO:34];
- (xviii) the intronic J α 41 gene sequence coding for the peptide:
M T H S L C D C C V I G F Q T L A L I G I I G E G T W W L L Q G V F C L G R T H C
[SEQ IN NO:35]; and
- (xix) the intronic J α 44 gene sequence coding for the peptide:
10 M E S Q A T G F C Y E A S H S V [SEQ IN NO:36].

12. An antisense polynucleotide of the polynucleotides according to claim 1.

13. An expression vector comprising a polynucleotide according to claim 1.

15 14. A host cell comprising a vector according to claim 13, wherein the host is a
mammalian cell.

15. Transfected mesenchymal human cells according to claim 14.

20 16. A polypeptide encoded by a polynucleotide according to claims 1.

17. A polynucleotide comprising SEQ ID NO:38 or SEQ ID NO:39.

25 18. A synthetic peptide deduced from an intronic J sequence of a TCR.

19. The synthetic peptide according to claim 18 selected from the group consisting of any
one of SEQ ID Nos:1-16 or SEQ ID Nos. 17-36.

30 20. An antibody raised against a peptide according to claim 18.

21. An antibody raised against a peptide according to claim 19.

22. A method for inducing mesenchymal cell growth comprising administering to a subject in need thereof transfected mesenchymal human cells comprising a polynucleotide according to claim 1, in an amount effective to induce mesenchymal cell growth.

5 23. The method according to claim 22, wherein the method induces wound healing.

24. A method for suppressing mesenchymal cell growth comprising administering to a subject in need thereof transfected mesenchymal human cells comprising a DNA molecule according to claim 12, in an amount effective to suppress mesenchymal cell growth.

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25. The method according to claim 24, wherein the method suppresses carcinomas.

26. A method of marking mesenchymal cells comprising applying an antibody according to claim 20 to mesenchymal cells in an amount effective to mark the cells.

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